

Medical Websites in Germany: A status report and critical analysis

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The World Wide Web (W3) has been established as an effective and easy-to-use means of communication on the Internet for scientific, commercial and private use. Current applications in the medical field include scientific databases, clinical knowledge repositories, computer-based training programs and means for scientific communication like electronic journals. In order to evaluate the use of the W3 in the German medical academic community, a survey of medical websites located at German universities was carried out.

METHODS. During a three-day period in February 1996 all university websites listed in the German W3-server directory¹ were surveyed; sites which were unreachable during the study period were excluded. For universities with a medical school, all medical institutions with W3-pages that were referenced on the main homepage were examined. The data collected for each institute comprised the date of the last update (as given on the homepage) and several yes/no-criteria regarding site design, self-representation, student information and special offers (see table 1).

RESULTS. During the study period 35 universities matched the inclusion criteria, with 272 surveyed institutes. A total of 95 institutes (34.9%) did not list the date of the last update on their homepage; for the remaining institutes the mean time passed between survey and last update was 5.3 months (min=0, max=27), 109 institutes (40.1%) had updated their pages during the last two months. See table 1 for the results of the itemized survey criteria; the results summarized by category are: 258 institutes (94.9%) used the W3 for self-representation, 87 institutes (31.9%) also provided student information, and 132 institutes (48.5%) provided additional special offers.

DISCUSSION. The information content of the websites surveyed is very heterogeneous; while nearly all institutes use the W3 for self-representation, the level of detail varies considerably: detailed information on research projects and publications were found in less than a third of the sites. The same phenomenon can be observed with student and patient information: less than ten percent of the institutes use the W3 to disseminate class scripts and other teaching-related material; of the six sites giving patient-related information only three contained specific information on selected diseases. In regard to site-design the use of mailback-links and graphics were common. A total of only 33 institutes (12.1%)

Table 1: Results of itemized survey criteria

Items	n Institutes
<i>Site Design:</i>	
- maintain own server	33 (12.1%)
- use of graphics	175 (64.3%)
- use of CGI	14 (5.1%)
- mail-link	200 (73.5%)
<i>Self-representation:</i>	
- postal address on homepage	205 (75.4%)
- list of staff members	180 (66.2%)
- list of research projects	143 (52.6%)
- project descriptions	100 (36.8%)
- list of publications	41 (15.1%)
<i>Student information:</i>	
- event/class information	80 (29.4%)
- class scripts	11 (4.0%)
- other student-related	26 (9.6%)
<i>Special offers:</i>	
- link collections	123 (45.2%)
- mirrorsites	7 (2.6%)
- databases	13 (4.8%)
- computer-based training	17 (6.3%)
- patient-related information	6 (2.2%)

operated their own W3-server, and only 14 (5.1%) made use of the common gateway interface (CGI) which allows to construct W3-pages 'on the fly' to provide interactivity or database access.

CONCLUSIONS. While the W3 is being utilized by almost all surveyed institutions, the quality and relevance of the provided information was maintained adequately by only relatively few sites. An explanation of this phenomenon could lie in the recent rise of W3 publicity in both mainstream and scientific media which may have provided institute employees with the initial enthusiasm to set up a website on their own; in many cases the administrative support and funding necessary for continuing updates and expansions of the site might be insufficient to keep the site attractive, resulting in lower usage statistics which, again, could lead to a vicious circle with diminished administrative support.

In order to be used effectively, the W3 still needs to reach acceptance as an integral part of scientific communication and information delivery both within and between academic institutions. With an appropriate level of funding, new integrated and interactive applications may be established, thus opening new perspectives for the scientific community.

1. <http://www.chemie.fu-berlin.de/outerspace/www-german.html>

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